

Abstract of the Disclosure

The present invention provides a method and article involving a one-piece, unibody spindle liner having a tubular shape with an outside diameter and inside diameter that may be sized to fit virtually any spindle of a turning machine and to readily allow for the feeding therethrough of any size or shape of bar or tube stock. This invention provides that the axial centerline of the workpiece is maintained in concentric axial alignment with the working centerline of the turning machine to reduce wobble or "whip" of the stock during the machining process. The liner's inner bore and diameter is molded to match and allow for feeding of virtually any size and shape stock being turned, including but not limited to round, hex, square, and extruded. The inner bore is molded into the spindle liner along its entire length providing absolute support of the workpiece. The spindle liner also has a flanged mounting end to allow for the proper orientation and attachment to the spindle. This invention also provides a method of forming the one-piece spindle liner that allows for significantly shorter delivery or lead times than the current standard for conventional metal spindle liners. Once the spindle inside diameter(s) is established for a specific machine make, a mold can be created to establish the spindle liner outside diameter. The only variable that remains is the shape and size of the inside diameter of the throughbore of the spindle liner. The mold core determines the cross-section of the spindle liner and can be changed readily as needed. Once the machine tool spindle inner dimension is known and the mold is established, the lead time can be as short as the same day to within a couple of days from the receipt of the customer's order.